

BIOPESTICIDES REGISTRATION ACTION DOCUMENT

9,12-TETRADECADIEN-1-OL, ACETATE (Z,E)- (CheckMate BAW Technical Pheromone)

No MRID number

Prepared for
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Office of Pesticide Programs
U.S. Environmental Protection Agency
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BIOPESTICIDE REGISTRATION ACTION DOCUMENT

**9,12-TETRADECADIEN-1-OL, ACETATE, (Z,E)-
(CHECKMATE BAW TECHNICAL PHEROMONE)**
(PC Code 117203)

U.S. Environmental Protection Agency
Office of Pesticide Programs
Biopesticides and Pollution Prevention Division
9,12-Tetradecadien-1-ol, acetate, (Z,E)-
(PC Code 117203)

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I. EXECUTIVE SUMMARY

A. IDENTITY

The new active ingredient 9,12-tetradecadien-1-ol, acetate (Z,E)- is a technical grade synthetic straight-chained lepidopteran pheromone. The technical grade active ingredient (TGAI)/manufacturing use product (MP) CheckMate BAW Technical Pheromone contains 87.66% by weight 9,12-tetradecadien-1-ol, acetate (Z,E)-. The product chemistry data submitted by the registrant satisfies the requirements for product.

B. USE/USAGE

CheckMate BAW Technical Pheromone is a manufacturing use product. The TGAI/MP will be incorporated into end use pesticide products intended to disrupt the mating cycle of the beet armyworm moth (*Spodoptera exigua*).

C. RISK ASSESSMENT

This pheromone product is a manufacturing use product, and does not require a food clearance/tolerance. Straight-chained lepidopteran pheromones are exempt from the requirement of a tolerance in or on all raw agricultural commodities when applied to growing crops at a rate not to exceed 150 grams of active ingredient/acre/year in accordance with good agricultural practices (40 CFR 180.1153).

Toxicology and environmental data requirements for this pheromone product were waived per the Agency publication OECD - Guidance for Registration Requirements for Pheromones and Other Semiochemicals Used for Pest Control (<http://www.epa.gov/pesticides/biopesticides/regtools/index.htm>). This document reports that no risks to human health are expected from the use of lepidopteran pheromones based on the low toxicity in animal testing and the expected low exposure to humans. Furthermore, adverse effects on nontarget organisms are not expected because these pheromones are released in very small quantities in the environment and act on a select group of insects. Appropriate precautionary labeling of end use products will further minimize potential exposure and mitigate risk to nontarget organisms.

The Agency has considered CheckMate BAW Technical Pheromone in light of relevant safety factors in the Food Quality Protection Act (FQPA) of 1996 and under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) and determined there will be no unreasonable adverse effects from the use of this product. The Agency is basing its risk management decision regarding the registration of CheckMate BAW Technical Pheromone on the known low toxicity of lepidopteran pheromones, the limited exposure to humans, and the precautionary labeling that minimizes exposure and mitigates risk to nontarget organisms. The Agency believes that end use products containing 9,12-tetradecadien-1-ol, acetate (Z,E)- can be used without causing unreasonable adverse effects to humans or the environment.

D. DATA GAPS / LABELING RESTRICTIONS

There are no data gaps except for storage stability and corrosion characteristics. As a condition of registration these data will be provided within 18 months of the date of registration of the product Checkmate BAW Technical Pheromone (EPA Reg. No.56336-47).

II. OVERVIEW

A. ACTIVE INGREDIENT OVERVIEW

Common Name:	9,12-Tetradecadien-1-ol, acetate (Z,E)-
Chemical Name:	9,12-Tetradecadien-1-ol, acetate (Z,E)-
Chemical Formula:	C ₁₆ H ₂₈ O ₂
Chemical Family:	Insect attractant, repellent and chemosterilant
Trade and Other Names:	CheckMate BAW Technical Pheromone
CAS Registry Number:	31654-77-0
OPP Chemical Code:	117203
Basic Manufacturer:	Suterra LLC 213 SW Columbia St. Bend, OR 97702

B. USE PROFILE

The following is information on the proposed uses with an overview of use sites and application methods.

Type of Pesticide: Synthetic semiochemical insect attractant (mating disrupter)

Use Sites: For manufacturing use only. This product is for formulation into end use products to be used to control the beet armyworm moth.

Target Pests: Beet armyworm moth (*Spodoptera exigua*)

Formulation Types: Liquid

Method and Rates of Application: For manufacturing use only. The TGAI/MP will be used for incorporation into end use products intended for the control of beet armyworm moth.

Use Practice Limitations: “For manufacturing use only.”

“Not to be used directly on treatment of pests.”

“End-use mating disruption products formulated from this product must be registered by the US EPA.”

C. ESTIMATED USAGE

The compound 9,12-tetradecadien-1-ol, acetate (Z,E)-, acts as a mating disruptor for Indian Meal Moth as well as Beet Armyworm. Indian Meal moth pheromone has been sold for many years as an exempt product under 40 CFR 152.25 (b). The Agency does not have use data for exempt uses. This straight chain lepidopteran pheromone has not previously sold as an exempt product to control Beet Armyworm as far as the Agency knows.

D. DATA REQUIREMENTS

The Agency has supported the registrant's request for waivers from the requirements of studies/data for acute mammalian toxicity and for non-target organism testing. These data were waived based on the following criteria from the Agency publication entitled OECD - Guidance for Registration Requirements for Pheromones and Other Semiochemicals Used for Pest Control (<http://www.epa.gov/pesticides/biopesticides/regtools/index.htm>): 1) low toxicity in animal testing, 2) expected low exposure to humans, 3) no expected risk to human health, 4) no reported adverse effects during more than 10 years of use as pesticides, and 5) no expected adverse effects to nontarget organisms. Please note that the formulation of the subject manufacturing use product into food use end use products will require all Tier I toxicity and Tier I nontarget organism data requirements to be addressed for each end use product.

Product analysis data requirements for the TGAI/MP were adequately satisfied except for storage stability and corrosion characteristics. As a condition of registration these data will be provided within 18 months of the date of registration of the product Checkmate BAW Technical Pheromone (EPA Reg. No.56336-47).

The data requirements for granting this registration under Section 3(c)(7)(A) of FIFRA have been reviewed by the Biopesticides and Pollution Prevention Division (BPPD). Based on the submitted information, the Agency foresees no unreasonable adverse effects to human health and the environment from the use of CheckMate BAW Technical Pheromone as long as it is used as labeled.

E. REGULATORY HISTORY

On September 20, 2005, the Agency received an application from Suterra LLC, to register CheckMate BAW Technical Pheromone, containing 87.66% by weight 9,12-tetradecadien-1-ol, acetate (Z,E)-. A notice of receipt of the application for registration of CheckMate BAW Technical Pheromone as a new active ingredient for manufacturing end use products for control of the beet armyworm moth was published in the Federal Register on December 15, 2005.

F. CLASSIFICATION

9,12-Tetradecadien-1-ol, acetate (Z,E)- is a synthetic straight-chained lepidopteran pheromone and is classified as a biochemical pesticide.

G. FOOD CLEARANCES/TOLERANCES

This is a manufacturing use product, and does not require a food clearance/tolerance. Any other uses will require a tolerance. Straight-chained lepidopteran pheromones are exempt from the requirement of a tolerance in or on all raw agricultural commodities when applied to growing crops at a rate not to exceed 150 grams of active ingredient/acre/year in accordance with good agricultural practices (40 CFR 180.1153).

III. SCIENCE ASSESSMENT

A. PHYSICAL/CHEMICAL PROPERTIES ASSESSMENT

All product chemistry data requirements for 9,12-tetradecadien-1-ol, acetate (Z,E)- are satisfied except for storage stability and corrosion characteristics. As a condition of registration these data will be provided within 18 months of the date of registration of the product Checkmate BAW Technical Pheromone (EPA Reg. No.56336-47).

1. Product Identity and Mode of Action

- a. **Product Identity:** The new active ingredient, 9,12-tetradecadien-1-ol, acetate (Z,E)-, represents 87.66% by weight of the manufacturing use product CheckMate BAW Technical Pheromone, which is a colorless or light yellow transparent liquid with a mild, fatty-fruity odor.
- b. **Mode of Action:** CheckMate BAW Technical Pheromone is a synthetic lepidopteran pheromone for manufacturing use only. It is to be formulated into end use products to monitor or disrupt mating of the beet armyworm moth by a non-toxic mode of action. When the end use products release pheromone into the air where males are looking for females, the males become confused and cannot easily locate the females.

2. Food Clearances/Tolerances

This is a manufacturing use product, which does not require a tolerance. However, any other uses will require a tolerance. Straight-chained lepidopteran pheromones are exempt from the requirement of a tolerance in or on all raw agricultural commodities when applied to growing crops at a rate not to exceed 150 grams of active ingredient/acre/year in accordance with good agricultural practices (40 CFR 180.1153).

3. Physical and Chemical Properties Assessment

The physical and chemical characteristics of CheckMate BAW Technical Pheromone were submitted to support its registration. These are summarized in Table 1.

Table 1. Product chemistry data requirements			
Guideline No.	Study	Results	MRID No.
151-10 (OPPTS 880.1100)	Product identity	The submitted data satisfy the requirements for product identity.	46649201

Table 1. Product chemistry data requirements			
Guideline No.	Study	Results	MRID No.
151-11 (OPPTS 880.1200)	Manufacturing process	The submitted data satisfy the requirements for the manufacturing process.	46649201
151-12 (OPPTS 880.1400)	Discussion of formation of unintentional ingredients	The submitted data satisfy the requirements for the discussion of the formation of unintentional ingredients.	46649201
151-13 (OPPTS 830.1700)	Analysis of samples	The submitted data satisfy the requirements for the analysis of samples.	46649202
151-15 (OPPTS 830.1750)	Certification of limits	The submitted data satisfy the requirements for the certification of limits.	46649203
151-16 (OPPTS 830.1800)	Analytical method	An acceptable analytical method was submitted.	46649203
Physical/chemical Properties for the TGAI/MP			
63-2 (OPPTS 830.6302)	Color	Colorless or light yellow, transparent	46649203
63-3 (OPPTS 830.6303)	Physical State	Liquid	46649203
63-4 (OPPTS 830.6304)	Odor	Mild, fatty-fruity	46649203
63-5 (OPPTS 830.7200)	Melting point	Not applicable, product is a liquid	46649203
63-6 (OPPTS 830.7220)	Boiling point	133-135EC	46649203
63-7 (OPPTS 830.7300)	Density	Specific gravity = 0.891	46649203

Table 1. Product chemistry data requirements Cont.			
63-8 (OPPTS 830.7840)	Solubility	0.090 mg/L in water Soluble in n-hexane, cyclohexane, benzene, toluene, methylene chloride, chloroform, ethanol, ethyl ether, acetonitrile, THF, acetone, DMF. Insoluble in DMSO and ethylene glycol.	46649203
63-9 (OPPTS 830.7950)	Vapor Pressure ^a	2.1×10^{-3} Pa @ 25°C	46649203
63-10 (OPPTS 830.7370)	Dissociation Constant	Not required for MP	46649203
63-11 (OPPTS 830.7550)	Octanol/water partition coefficient	Not required for MP, but submitted as Log $P_{ow} > 5$	46649203
63-12 (OPPTS 830.7000)	pH	~4.6 @ 1000 g/L water	46649203
63-13 (OPPTS 830.6313)	Stability	Not required for MP	
63-14 (OPPTS 830.6314)	Oxidation/reduction	Contains no oxidizing/reducing agents	46649203
63-15 (OPPTS 830.6315)	Flammability	Flash point = 134°C	46649203
63-16 (OPPTS 830.6316)	Explodability	Product is not explosive	46649203
63-17 (OPPTS 830.6317)	Storage stability ^b	This data is required as a condition of registration and must be submitted within 18 month of the registration date.	46649203
63-18 (OPPTS 830.7100)	Viscosity	4.3 cS @ 25°C	46649203
63-19 (OPPTS 830.6319)	Miscibility	Not applicable, product is not an emulsifiable liquid	46649203
63-20 (OPPTS 830.6320)	Corrosion characteristics ^b	This data is required as a condition of registration and must be submitted within 18 month of the registration date.	46649203
63-21 (OPPTS 830.6321)	Dielectric breakdown voltage	Not applicable, not for use in/around electrical equipment	46649203
OPPTS 830.7050	UV/Visible absorption	Not required	

^bAs a condition of registration the registrant must provide the storage stability and corrosion characteristics data within 18 months of the date of registration of Checkmate BAW Technical Pheromone (56636-47).

B. HUMAN HEALTH ASSESSMENT

1. Toxicology Assessment

The active ingredient, 9,12-tetradecadien-1-ol, acetate (Z,E)-, is a synthetic lepidopteran pheromone. It is the TGAI in the manufacturing use product CheckMate BAW Technical Pheromone, which is to be used only for the formulation of end use products to be used to

disrupt mating of the beet armyworm moth. The registrant requested waivers for all Tier I mammalian toxicity studies (Guidelines 152-10 through 152-23).

The Agency has previously reviewed the mammalian toxicity data and other information submitted for the registrant's substantially similar products and found it to be adequate for their registration. It is the Agency's position that based on low toxicity in animal testing, and expected low exposure to humans, no risk to human health is expected from the use of lepidopteran pheromones, and consumption of food containing residues of these pheromones presents no risk (OECD - Guidance for Registration Requirements for Pheromones and Other Semiochemicals Used for Pest Control (<http://www.epa.gov/pesticides/biopesticides/regtools/index.htm>)). The Agency therefore granted the request for waivers for all Tier I mammalian toxicity studies (Table 2).

TABLE 2. Mammalian toxicity data requirements			
Guideline No.	Study	Results	MRID No.
152-10 (OPPTS 870.1100)	Acute oral toxicity	Waiver accepted	46649204
152-11 (OPPTS 870.1200)	Acute dermal toxicity	Waiver accepted	46649204
152-12 (OPPTS 870.1300)	Acute inhalation toxicity	Waiver accepted	46649204
152-13 (OPPTS 870.2400)	Primary eye irritation	Waiver accepted	46649204
152-14 (OPPTS 870.2500)	Primary dermal irritation	Waiver accepted	46649204
152-15 (OPPTS 870.2600)	Hypersensitivity	Waiver accepted	46649204
152-16 (885.3400)	Hypersensitivity incidents	Incidents must be reported.	46649204
152-17 (OPPTS 870.5100-5395)	Studies to determine genotoxicity	Waiver accepted	46649204
152-20 (OPPTS 870.3100)	90-Day feeding	Waiver accepted	46649204
152-21 (OPPTS 870.3250)	90-Day dermal	Waiver accepted	46649204
152-22 (OPPTS 870.3465)	90-Day inhalation	Waiver accepted	46649204
152-23 (OPPTS 870.3700)	Teratogenicity	Waiver accepted	46649204

2. Dose Response Assessment

Based on available information, no toxicity endpoints were identified.

3. Dietary Exposure and Risk Characterization

This is a manufacturing use product, and dietary exposure is not a concern. Data waivers were requested by the registrant for all mammalian toxicity studies (Guidelines 152-10 through 152-

23) and were granted. Due to the low toxicity of lepidopteran pheromones in animal testing, and the expected low exposure to humans, no risk to human health is expected from the use of lepidopteran pheromones. Consumption of food containing residues of these pheromones presents no risk (OECD - Guidance for Registration Requirements for Pheromones and Other Semiochemicals Used for Pest Control (<http://www.epa.gov/pesticides/biopesticides/regtools/index.htm>)).

4. Occupational and Residential Exposure

- a. Occupational Exposure and Risk Characterization:** The potential for dermal, eye, and inhalation exposures to the pesticide exists for handlers and applicators. Due to the low toxicity of lepidopteran pheromones in animal testing, no purposeful exposure to human skin, and no repeated inhalation exposure to the active ingredient at toxic levels, worker exposure data on CheckMate BAW Technical Pheromone are not required. The Agency will require the appropriate signal word and precautionary statements to mitigate any risk from exposure via these routes.
- b. Residential, School and Daycare Exposure and Risk Characterization:** No indoor residential, school, or day care uses currently appear on the product label. Although accidental non-dietary exposure at sites where children are present may occur, the health risk is expected to be minimal based on low mammalian toxicity.

5. Drinking Water Exposure and Risk Characterization

This product is for manufacturing use only. No significant exposure is expected from an accumulation of CheckMate BAW Technical Pheromone in the aquatic environment when it is used according to the precautionary label language.

6. Acute and Dietary Risks for Sensitive Subpopulations, Particularly Infants and Children

The Agency has concluded that the potential for CheckMate BAW Technical Pheromone residues is not a dietary hazard to the general population, including infants and children. This decision was based on low toxicity in animal testing, expected low exposure to humans, no expected risk to human health, and no risk from consumption of food containing residues of these pheromones (OECD - Guidance for Registration Requirements for Pheromones and Other Semiochemicals Used for Pest Control (<http://www.epa.gov/pesticides/biopesticides/regtools/index.htm>)).

7. Aggregate Exposure from Multiple Routes Including Dermal, Oral and Inhalation

CheckMate BAW Technical Pheromone is a synthetic semiochemical that acts via a non-toxic mode of action on a specific insect pest. Due to the low toxicity of lepidopteran pheromones in animal testing, and the expected low exposure to humans, no risk to human health is expected. Consumption of food containing residues of these pheromones presents no risk (OECD - Guidance for Registration Requirements for Pheromones and Other Semiochemicals Used for Pest Control (<http://www.epa.gov/pesticides/biopesticides/regtools/index.htm>)). Based on this

information, the Agency has concluded that aggregate exposure to CheckMate BAW Technical Pheromone over a lifetime will not pose appreciable risks to human health. Moreover, the toxicity and exposure data are sufficiently complete to adequately address the potential for additional sensitivity of infants and children to residues of CheckMate BAW Technical Pheromone. The Agency has considered the various routes of exposure and potential risks of the product and determined that the proposed use of the active ingredient does not pose significant risk to all populations, including infants and children.

8. Cumulative Effects

Section 408(b)(2)(D)(v) of the FFDCA requires the Agency to consider the cumulative effect of exposure to CheckMate BAW Technical Pheromone and to other substances that have a common mechanism of toxicity. These considerations include the possible cumulative effects of such residues on infants and children. CheckMate BAW Technical Pheromone has a non-toxic mode of action. Thus, there is no indication or any evidence to suggest that this biochemical pesticide shares any common mechanisms of toxicity with other substances. Therefore, cumulative exposure concerns are not anticipated.

9. Effects on the Immune and Endocrine Systems

EPA is required under the FFDCA, as amended by FQPA, to develop a screening program to determine whether certain substances (including all pesticide active and other ingredients) may have an effect in humans that is similar to an effect produced by a naturally-occurring estrogen, or other such endocrine effects as the Administrator may designate. Following the recommendations of its Endocrine Disruptor Screening and Testing Advisory Committee (EDSTAC), EPA determined that there was scientific basis for including, as part of the program, the androgen and thyroid systems, in addition to the estrogen hormone system. EPA also adopted EDSTAC's recommendation that the program include evaluations of potential effects in wildlife. For pesticide chemicals, EPA will use FIFRA and, to the extent that effects in wildlife may help determine whether a substance may have an effect in humans, FFDCA authority to require the wildlife evaluations. As the science develops and resources allow, screening of additional hormone systems may be added to the Endocrine Disruptor Screening Program (EDSP).

The Agency is not requiring information on the endocrine effects of the active ingredient, 9,12-tetradecadien-1-ol, acetate (Z,E)- at this time. The Agency has considered, among other relevant factors, available information concerning whether the active ingredient may have an effect in humans similar to an effect produced by a naturally occurring estrogen or other endocrine effects. There is no known metabolite that acts as an "endocrine disrupter" produced by this active ingredient. Based on the low potential exposure level associated with the proposed use of this pesticide, the Agency expects no incremental adverse effects to the endocrine or immune systems.

C. ENVIRONMENTAL ASSESSMENT

1. Ecological Effects Hazard Assessment

The registrant requested waivers for all non-target organism toxicity requirements (Guidelines 154-6 through 154-15 and Guidelines 155-4 through 155-13). The registrant's data for similar straight-chained lepidopteran pheromones show no toxicity issues for non-target organisms. The Agency has previously reviewed the registrant's substantially similar products and found that the non-target organism data/information submitted was adequate to support their registration. It is the Agency's position that adverse effects on non target organisms (mammals, birds, and aquatic organisms) are not expected because these straight-chained lepidopteran pheromones are released in very small amounts to the environment and act on a select group of insects (OECD - Guidance for Registration Requirements for Pheromones and Other Semiochemicals Used for Pest Control (<http://www.epa.gov/pesticides/biopesticides/regtools/index.htm>)). The Agency therefore granted the request for waivers for all non-target organism Tier I (Guidelines 154-6 through 154-11) toxicity studies (Table 3). Based on the decision to waive Tier I data requirements, Tier II tests (Guidelines 155-4 through 155-14) and Tier III tests (Guidelines 154-12 through 154-15) were not required.

TABLE 3: Non-target organism toxicity requirements			
Guideline	Study	Results	MRID No.
154-6 (OPPTS 850.2100)	Avian acute oral toxicity	Waiver accepted	46649205
154-7 (OPPTS 850.4100)	Avian dietary toxicity	Waiver accepted	46649205
154-8 (OPPTS 850.1075)	Freshwater fish LC ₅₀	Waiver accepted	46649205
154-9 (OPPTS 850.1010)	Freshwater invertebrate LC ₅₀	Waiver accepted	46649205
154-10 (OPPTS 850.4000-4800, as applicable)	Non-target plant studies	Waiver accepted	46649205
154-11 (OPPTS 880.4350)	Non-target insect testing	Waiver accepted	46649205

2. Environmental Fate and Ground Water Data

The need for environmental fate and groundwater data [Tier II, 40 CFR 158.690(d)] was not triggered because the Tier I studies were waived. Risk is minimal due to lack of exposure, low toxicity, and the use pattern (manufacturing use only).

3. Ecological Exposure and Risk Characterization

CheckMate BAW Technical Pheromone is a manufacturing use product. It is a synthetic lepidopteran pheromone that acts on a specific insect and has a non-toxic mode of action. As a result, no toxicology or environmental fate and effects data were deemed necessary for registration. The waiver requests for submitted data for non-target organisms are summarized in Table 3. In addition, mitigating label language will further reduce the risk to aquatic organisms. The precautionary labeling of CheckMate BAW Technical Pheromone manufacturing use product stipulates “Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans or other waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority.”

D. EFFICACY DATA

No efficacy data were required to be submitted to the Agency because no public health uses are involved.

IV. RISK MANAGEMENT DECISION

A. DETERMINATION OF ELIGIBILITY

Section 3(c)(7)(A) of FIFRA provides for the conditional registration of new active ingredients if it is determined that (A) its composition is such as to warrant the proposed claims for it; (B) its labeling and other materials required to be submitted comply with the requirements of FIFRA; (C) it will perform its intended function without unreasonable adverse effects on the environment; and (D) when used in accordance with widespread and commonly recognized practice, it will not generally cause unreasonable adverse effects on the environment.

To satisfy criteria “A” above, products formulated from the use of this manufacturing use product are not expected to cause unreasonable adverse effects when used according to label instructions. Criteria “B” is satisfied by the current label and by data presented in this document. It is believed that CheckMate BAW Technical Pheromone will not cause any unreasonable adverse effect, and is an effective biochemical pesticide for lepidopteran pests, satisfying Criteria “C.” Criteria “D” is satisfied in that the pesticide is not expected to cause unreasonable adverse effects when used as described on the label. Therefore, CheckMate BAW Technical Pheromone

is eligible for an unconditional registration. The technical compound will be formulated into end use products to use to control lepidopteran pests in/on agricultural commodities.

B. REGULATORY POSITION

1. Conditional Registration

The data submitted are sufficient for a conditional registration of CheckMate BAW Technical Pheromone as a manufacturing use product. The condition of registration is the storage stability and corrosion characteristics data be submitted to the Agency within 18 months of the date of registration of the product Checkmate BAW Technical Pheromone (EPA Reg. No.56336-47).

2. Tolerance Reassessment

This is a manufacturing use product, and therefore does not require a tolerance. However, any other uses on food require a tolerance. Straight-chained lepidopteran pheromones are exempt from the requirement of a tolerance in or on all raw agricultural commodities when applied to growing crops at a rate not to exceed 150 grams of active ingredient/acre/year in accordance with good agricultural practices (40 CFR 180.1153).

3. Codex Harmonization

There are no Codex harmonization considerations since there is currently no Codex tolerance for residues of 9,12-tetradecadien-1-ol, acetate (Z,E)-.

4. Nonfood Re/Registrations

This is a new active ingredient and, therefore, not the subject of reregistration at this time.

5. Risk Mitigation

There is minimal to negligible potential for risks to non-target organisms (plants and wildlife) or for ground or surface water contamination through the proposed use of this active ingredient, as CheckMate BAW Technical Pheromone is for manufacturing use only. Further, should any risks occur from occupational exposure to this active ingredient, appropriate mitigating labeling language for aquatic organisms is required.

6. Endangered Species Statement

The Agency has determined that the active ingredient 9,12-tetradecadien-1-ol, acetate (Z,E)- will not adversely effect (NA) any threatened or endangered species when used according to label directions. CheckMate BAW Technical Pheromone is labeled for manufacturing use only.

C. LABELING RATIONALE

It is the Agency=s position that the labeling for the manufacturing product CheckMate BAW Technical Pheromone containing 87.66% by weight 9,12-tetradecadien-1-ol, acetate, (Z,E)- complies with the current pesticide labeling requirements.

1. Human Health Hazard

- a. **Worker Protection Standard:** This product does not come under the provisions of the Worker Protection Standards (WPS).
- b. **Non-Worker Protection Standard:** There are no non-WPS human health hazard issues.
- c. **Precautionary Labeling:** The Agency has examined the toxicological data base for CheckMate BAW Technical Pheromone and concluded that the precautionary labeling required during this unconditional registration process (i.e. Signal Word, First Aid Statements, and other label statements) adequately mitigates the risks associated with the proposed uses.
- d. **Manufacturing Use Product Precautionary Labeling:** For CheckMate BAW Technical Pheromone, "CAUTION." "Hazard to humans and domestic animals. Harmful if swallowed or absorbed through skin or inhaled. Causes moderate eye irritation. Avoid contact with skin, eyes, or clothing. Avoid breathing vapor. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, or using tobacco. Remove contaminated clothing and wash before reuse."
- e. **Spray Drift Advisory** No spray drift advisory statement is necessary for this use.

2. Environmental Hazards Labeling

End-Use Product Environmental Hazards Labeling: Checkmate BAW Technical Pheromone is intended for manufacturing use only. However, the following statements are required on the label of this product: "Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans or other waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance contact your State Water Board or Regional Office of the EPA."

3. Application Rate

This product is for manufacturing use only.

D. LABELING

The manufacturing use product and the technical grade active ingredient are one and the same substance.

ACTIVE INGREDIENT

9,12-Tetradecadien-1-ol, acetate (Z,E)-.....87.66%
Other ingredients.....12.34%
Total.....100.00%

The manufacturing use product label shall comply with Agency labeling requirements and must contain the following information:

- Product name
- Ingredient statement
- Registration number
- “Keep out of reach of children”
- Signal word (CAUTION)
- Precautionary statements

V. ACTIONS REQUIRED BY REGISTRANTS

Registrants are required to provide reports of incidents of adverse effects to humans or domestic animals under FIFRA, Section 6(a)(2) and incidents of hypersensitivity under 40 CFR Part 158.690(c), guideline reference number 152-16. There are no data requirements, label changes and other responses necessary for the reregistration of the product since the product is being registered after November 1984 and is, therefore, not subject to reregistration. For the same reason, there are also no existing stocks provisions at this time.

VI. APPENDIX A

Table 4 lists the use sites for the product. The label for the product is also attached.

TABLE 4: Manufacturing Use Only. Registration/Reregistration	
CheckMate BAW Technical Pheromone <u>Use sites:</u> Manufacturing use only	Official date registered:

APPENDIX B – REFERENCES

Lepidopteran Pheromones Fact Sheet issued 09/01. U.S. EPA.

http://www.epa.gov/oppbppd1/biopesticides/ingredient/factsheets/factsheet_lep_pheromones.htm

Fresh, R.W. Product Toxicology for CheckMate BAW Technical Pheromone. Suterra LLC, 213 SW Columbia St., Bend, OR 97702. Study No. BAW/Tech/PT. September 19, 2005. MRID 46649204.

Fresh, R.W. Non-Target Organism, Fate, and Expression Requirements for CheckMate BAW Technical Pheromone. Suterra LLC, 213 SW Columbia St., Bend, OR 97702. Study No. BAW/Tech/NTO. September 19, 2005. MRID 46649205.

OECD. 2001. OECD Environment, Health, and Safety Publication; Series on Pesticides No.12; Guidance for Registration Requirements for Pheromones and Other Semiochemicals Used for Arthropod Pest Control. <http://www.epa.gov/pesticides/biopesticides/regtools/index.htm>

Senoh, H., and R.W. Fresh. Product Chemistry for CheckMate BAW Technical Pheromone. Suterra LLC, 213 SW Columbia St., Bend, OR 97702. Study No. BAW Tech/PC. September 19, 2005. MRID 46649201.

Senoh, H., and R.W. Fresh. Product Chemistry for CheckMate BAW Technical Pheromone. Suterra LLC, 213 SW Columbia St., Bend, OR 97702. Study No. BAW Tech/PC. September 19, 2005. MRID 46649202.

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Touhey, J.G. (1990) "A review of the current bases for the United States Environmental Protection Agency's policies for the regulation of pheromones and other semiochemicals, together with a review of the available relevant data which may impact the assessment of risk for these classes of chemicals. Part No. 1, Straight Chain Alcohols, Acetate Esters and Aldehydes". (Unpublished report, 474 pp.)